

IN THE CLAIMS

1. (Previously presented) A system for controlling and co-ordinating activities among entities in an information and process environment comprising:

(a) communications pathway for transmitting and receiving communications of said entities; and

(b) a shared memory connected to said communications pathway for maintaining a tuple space on which said entities post and receive messages, said tuple space synchronized with a clock that defines discrete time intervals as reference points for operations on said tuple space, wherein said entities include at least one entity that asserts a tuple on said tuple space signaling its intention to perform an action and asserts an anti-tuple on said tuple space for evaluating responses to said intention; and at least one further entity which asserts an anti-tuple for detecting said intentions; said system further comprising a process in communication with said at least one entity for monitoring said action and, in the event that said entity overrides the evaluated responses, reporting said action to an authority.

2. (Original) The system of claim 1 wherein said messages are in the form of tuples and anti-tuples.

3. (Cancel)

4. (Original) The system of Claim 3, wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space.

5. (Original) The system of claim 4 wherein said duration parameter is a multiple of said discrete time intervals.
6. (Original) The system of claim 5 wherein said tuples are removed from said tuple space after said duration has elapsed.
7. (Original) The system of claim 1 wherein said entities are hardware devices.
8. (Original) The system of claim 1 wherein said communication pathway is a network or bus.
9. (Previously presented) A method for controlling and co-ordinating activities among entities in an information and process environment comprising the steps of:
 - (a) providing a communications pathway for transmitting and receiving communications of said entities;
 - (b) providing a tuple space in a shared memory, said tuple space synchronized with a clock for operation in discrete time intervals, and connected to said communications pathway;
 - (c) using said discrete time intervals as reference points, posting and receiving messages of said entities to and from said tuple space, wherein said entities include at least one entity that asserts a tuple on said tuple space signaling its intention to perform an action and asserts an anti-tuple on said tuple space for evaluating responses to said intention; and at least one further entity which asserts an anti-tuple for detecting said intentions, said method further comprising (d) monitoring said action and

in the event that said at least one entity overrides the evaluated responses reporting said action to an authority.

10. (Original) The method of claim 9 wherein said messages are in the form of tuples and anti-tuples.
11. (Cancel)
12. (Original) The method of Claim 11, wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space.
13. (Original) The method of claim 12 wherein said duration parameter is a multiple of said discrete time intervals.
14. (Original) The method of claim 13 wherein said tuples are removed from said tuple space after said duration has elapsed.
15. (Original) The method of claim 9 wherein said entities are hardware devices.
16. (Original) The method of claim 9 wherein said communication pathway is a network or bus.
17. (Currently Amended) A method of call processing comprising the steps of:
 - (a) providing entities representative of call processing features;
 - ~~(d)~~(b) providing a communications pathway for transmitting and receiving communications of said entities;
 - ~~(e)~~(c) providing a tuple space in a shared memory, said tuple space

synchronized with a clock for operation in discrete time intervals, and connected to said communications pathway; and using said discrete time intervals as reference points;

~~(f)~~(d) before taking an action, a first of said entities desirous of taking said action requesting advice of other said entities by posting intention messages on said tuple space to said other entities through said pathway;

~~(g)~~(e) in response to said intention messages, said other entities providing advice as desired by posting responding messages on said tuple space to said first of said entities;

~~(h)~~(f) said first of said entities evaluating said responding messages, if any; and

~~(i)~~(g) said first of said entities taking advised action after said evaluating said responding message, and monitoring said advised action so that in the event the at least one activity ignores or overrides said responding messages, reporting said advised action to an authority.

18. (Cancel)

19. (Original) The method of claim 17 wherein said messages and said responding messages are in the form of tuples and anti-tuples.

20. (Original) The method of Claim 19 wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space.

21. (Original) The method of claim 20 wherein said duration parameter is a multiple of said discrete time intervals.

22. (Original) The method of claim 21 wherein said tuples are removed from said tuple space after said duration has elapsed.

23. (Original) The method of claim 17 wherein said entities are software processes operating in memory under control of a processor.

24. (Original) The method of claim 17 wherein said entities are represented by agents.

25. (Original) The method of claim 17 wherein said communication pathway is a network or bus.

26. (Previously presented) A method for providing services in an automated contract environment comprising the steps of:

- (a) providing a communications pathway for transmitting and receiving communications of application entities and service entities;
- (b) providing a tuple space in a shared memory, said tuple space synchronized with a clock for operation in discrete time intervals, and connected to said communications pathway; and

using said discrete time intervals as reference points, posting and receiving messages of said application entities and said service entities to and from said tuple space, wherein said entities include at least one entity that asserts a tuple on said tuple space signaling its intention to perform an action and asserts an anti-tuple on said tuple space for evaluating responses to said intention; and at least one further entity which asserts

an anti-tuple for detecting said intentions, said method further comprising (c) monitoring said action and in the event that at least one entity overrides the evaluated response reporting said action to an authority.

27. (New) A system for controlling and coordinating activities among entities in an information and process environment comprising:

- a) a communications pathway for transmitting and receiving communications of said entities; and
- b) a shared memory connected to said communications pathway for maintaining a tuple space on which said entities post and receive messages, wherein said messages are in the form of tuples and anti-tuples, and wherein said entities include at least one entity that asserts a tuple on said tuple space signalling its intention to perform an action and asserts an anti-tuple on said tuple space for evaluating outcomes of said intention; and at least at one further entity which asserts an anti-tuple for detecting said intentions.

28. (New) The system of Claim 27, wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space.

29. (New) The system of claim 28 wherein said duration parameter is a multiple of said discrete time intervals.

30. (New) The system of claim 29 wherein said tuples are removed from said tuple space after said duration has elapsed.

31. (New) The system of claim 27 wherein said entities are hardware devices.

32. (New) The system of claim 27 wherein said communication pathway is a network or bus.

33. (New) A method for controlling and coordinating activities among entities in an information and process environment comprising the steps of

- a) providing a communications pathway for transmitting and receiving communications of said entities;
- b) providing a tuple space in a shared memory and connected to said communications pathway;
- c) posting and receiving messages of said entities to and from said tuple space synchronized to said discrete time intervals, wherein said messages are in the form of tuples and anti-tuples, and wherein said entities include at least one entity that asserts a tuple on said tuple space signalling its intention to perform an action and asserts an anti-tuple on said tuple space for evaluating outcomes of said intention; and at least at one further entity which asserts an anti-tuple for detecting said intentions.

34. (New) The method of Claim 33, wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space.
35. (New) The method of claim 34 wherein said duration parameter is a multiple of said discrete time intervals.
36. (New) The method of claim 35 wherein said tuples are removed from said tuple space after said duration has elapsed.
37. (New) The method of claim 33 wherein said entities are hardware devices.
38. (New) The method of claim 33 wherein said communication pathway is a network or bus.
39. (New) A method of call processing comprising the steps of
- a) providing entities representative of call processing features;
 - b) providing a communications pathway for transmitting and receiving communications of said entities;
 - c) providing a tuple space in a shared memory connected to said communications pathway;
 - d) requesting advice by a first of said entities desirous of taking action of

other said entities before taking said action by posting messages communicated on said tuple space to said other entities through said pathway;

- e) providing advice as desired by said other entities responsive to said messages by posting responding messages communicated on said tuple space to said first of said entities;
- f) evaluating said responding messages, if any, by said first of said entities; and
- g) taking advised action by said first of said entities after said evaluating said responding message.

40. (New) The method of claim 39 wherein said advised action ignores or overrides said responding messages.

41. (New) The method of claim 39 wherein said messages and said responding messages are in the form of tuples and anti-tuples.

42. (New) The method of Claim 41 wherein said tuples include a duration parameter for limiting the duration thereof in said tuple space.

43. (New) The method of claim 42 wherein said duration parameter is a multiple of said discrete time intervals.

44. (New) The method of claim 43 wherein said tuples are removed from said tuple space after said duration has elapsed.

45. (New) The method of claim 39 wherein said entities are software processes operating in memory under control of a processor.

46. (New) The method of claim 39 wherein said entities are represented by agents.

47. (New) The method of claim 39 wherein said communication pathway is a network or bus.

48. (New) A method for controlling and coordinating activities among entities in an information and process environment comprising:

- a) providing a communications pathway for transmitting and receiving communications of said entities;
- b) requesting advice by a first of said entities desirous of taking action of other said entities before taking said action by exchanging messages through said pathway;
- c) providing advice as desired by said other entities responsive to said messages by exchanging responding messages through said pathway;
- d) evaluating each said responding message; and

- e) taking advised action by said first of said entities after said evaluating said responding message.

49. (New) The method of claim 48, wherein said messages are exchanged over a tuple space in shared memory.

50. (New) The method of claim 48, wherein said entities represent call processing features in a communication system.